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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS

*Ex Parte* Ying Ding, Brian Halsall and William R. Heineman  
Appeal No. 2006-0703

In re Application of: Ying Ding, et al.

Serial No.: 09/268,437

Art Unit: March 12, 1999

Examiner: Gailene R. Gabel

Title: **SIMULTANEOUS MULTIANALYTE ELECTROCHEMICAL  
ASSAY BASED ON SPATIAL RESOLUTION**

Attorney Docket: UOC-134A

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REQUEST FOR REHEARING - TRANSMITTAL

Transmitted herewith is a Request for Rehearing (3 pages) in response to the DECISION ON APPEAL mailed August 31, 2006, in the above-identified Appeal No. 2006-0703.

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

*Ex Parte* Ying Ding, Brian Halsall and William R. Heineman

Appeal No. 2006-0703

In re Application of: Ying Ding, et al.  
Serial Number: 09/268,437  
Filed: March 12, 1999  
Art Unit: 1641  
Examiner: Gailene R. Gabel  
Appellants: Ying Ding, Brian Halsall and William R. Heineman  
Title: **SIMULTANEOUS MULTIANALYTE ELECTROCHEMICAL ASSAY BASED ON SPATIAL RESOLUTION**  
Attorney Docket: UOC-134A

Cincinnati, Ohio 45202

October 5, 2005

Mail Stop Appeal Brief-Patents  
Commissioner for Patents and Trademarks  
P. O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**REQUEST FOR REHEARING**

Pursuant to 37 CFR § 41.52, applicants hereby request rehearing of the decision of the Board in the above case.

**Basis for Request**

1. The Board failed to address the rejection of all pending claims under 35 U.S.C. § 112.
2. Applicants request reconsideration of the rejection under 35 U.S.C. § 102(b) being anticipated by Cozzette. This was a new grounds of rejection under 34 CFR

§ 41.50(b). It is applicants' belief that the Cozzette reference does not disclose a plurality of analyte binding areas each of said analyte binding areas having a different specific analyte binding substrate.

### **Discussion**

1. Applicants' original Appeal Brief contains all the discussion with respect to the rejection under 35 U.S.C. § 112. The Board's decision failed to address the rejection under § 112. Therefore, applicants specifically request that this be considered.

2. With respect to the rejection of claim 11 based on the Cozzette reference, applicants maintain that this reference does not inherently disclose applicants' invention and does not anticipate claim 11. Claim 11 requires that the electrochemical assay device have a surface that has a plurality of analyte binding areas, each of the analyte binding areas having a different specific analyte binding substrate.

The board referenced Cozzette, at column 74, for teaching a dual analyte combined sensor for glucose and cholesterol. In Cozzette, the different electrodes are coated with glucose oxydase or cholesterol oxydase. In use, the test solution would contact the coated electrodes and a reaction would occur at the respective electrodes if cholesterol or glucose were present. These reactions are catalyzed by the glucose oxydase or the cholesterol oxydase. In this scenario, there is no binding of any analyte, as that term would be understood by one skilled in the art. Binding is generally considered a reversible event, that does not modify the bound analyte. Bound analyte is simply held in position. What is occurring in the device disclosed in the Cozzette reference is an enzymatic reaction. The enzymes may be bound to the electrode, but the analytes (cholesterol or glucose) are never bound to the enzyme, as that term would be understood by one skilled in the art. They only react with the

enzyme. There is no evidence of record indicating that any binding occurs. Nor can one infer that any binding of the cholesterol or glucose occurs, as that term would be understood by one skilled in the art.

Applicants' specification clearly distinguishes a binding substrate and a reactant. At page 6, it indicates that the binding sites can be formed from any molecule which can be bound to a substrate and which will specifically bind to a desired analyte. It then lists the type of compounds that can act as analyte binding sites. This list makes it clear that the analyte binding sites are molecules that simply bind the complementary analyte molecule. Page 6 further states, "Obviously the analytes will be specifically complementing compounds."

In the next paragraph, The specification specifically lists labels which can be used for the detection of the bound analyte. These compounds react to produce a detectable product. Cholesterol oxydase and glucose oxydase are listed as labels. Thus, the cholesterol oxydase and glucose oxydase disclosed in Cozzette do not fall within the definition of specific analyte binding substrates.

In light of the above, applicants would request reconsideration of the prior decision of the Board affirming the Examiner's rejection of claim 11 under 35 U.S.C. § 103, as well as a favorable decision on the rejection under 35 U.S.C. § 112.

Respectfully submitted,

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